REMARKS

Claims 1-37 remain in this application. Claim 37 is newly submitted. Claims 1-21 and 33-36 are withdrawn from consideration as directed to a non-elected invention. Applicant respectfully requests reexamination.

Claims 22-32 were rejected under 35 U.S.C. §102(e) as anticipated by *Silver* (U.S. 6,663,587). Applicant respectfully traverses.

Silver teaches a breast cup wherein the walls collapse or expand at the same time to help express milk. As can be seen in Figure 9, the "pressure of the fluid cause the flexible shield part overlying the interior sidewall 293 of the rigid housing 292A to expand or protrude toward the interior space 90, as shown in dashed-in lines." (Col. 15, lines 16-20). The flexible shield will squeeze the breast to help express milk. Similarly, in Figure 10, the upper funnel like section 397 and tubular part 398 of the inner shield 394 expands toward the interior space 90 when a positive pressure is applied to cavity 414 as shown in the dotted lines. (Col. 16 line 65 – Col. 17 line 2). The tubular part 398 will squeeze a breast to help express milk. Finally, in Figure 13, the internal chamber 564 is filled with a positive pressure and expands which causes sidewall 554 to flex into the interior space 90 to squeeze the breast. At the same time, chamber 531 contracts due to negative pressure to widen area 588 which in turn communicates a negative pressure within interior space 90 to pull on the breast and nipple. (Col. 21, lines 25-36).

The present invention results from the discovery that creating a progressive collapse of portions of the breast cup will create better simulation of a suckling infant. The breast cup is comprised of a tube with a center 110 and a first end opening 108 expanding in a cone-shaped manner at radius 124 to a second and large open end 106. The wall of the breast cup at point 125, just beyond radius 124 in Figure 10 is thinner than the walls at 123 and at the second end

119. Point 125 is where the areola area of the human breast is located in the cup. Thus, when a human breast and teat is placed in the breast cup and negative pressure is supplied through opening 108, the breast cup first collapses at point 125 because it has a thinner wall. This causes the areola of the human breast to be squeezed first. Then the rest of the breast cup between radius 121 and 124 collapses squeezing the human teat. The negative pressure can then be cycled on and off to create repetition of the progressive collapse of the breast cup. This progressive collapse replicates the mechanical forces of a suckling infant and causes the expression of milk in a more efficient and comfortable manner.

In contrast, *Silver* does not teach or suggest "the wall thickness of the cup varying from the first end to the second end in a manner that causes a progressive collapse of the cup when a vacuum is drawn at the first end, and the second end of the cup is closed by a human breast and teat." (Claim 22). In Figures 9, 10, and 13 of Silver, the walls collapse at the same time rather than progressively. Furthermore, the wall thickness is not varied for this specific purpose. The thickness of the walls vary only to prevent some portions of the breast cup in Silver from collapsing as opposed to allowing progressive collapse of the walls to simulate a suckling infant.

In addition, Figures 9, 10 do not show the breast cup squeezing or manipulating the teat at all. While Figure 13 does manipulate the teat, it does so in a different manner. In Figure 13, in the first cycle, the sidewalls 554 expands to squeeze the breast while area 588 widens due to a negative pressure preventing any contact with the nipple. Thus the breast is squeezed while the nipple is not. Then in the second cycle, sidewall 554 and 558 resumes its normal position where the breast is not squeezed, but the nipple is. In the present invention however, in the first cycle pressure is first applied on the breast and then pressure is applied on the nipple. In the second

cycle no pressure is applied on the breast and no pressure is applied on the nipple. Thus, Figure 13 differs from the present invention.

Applicant respectfully requests that this rejection be withdrawn.

Claims 22-32 were rejected under 35 U.S.C. 102(b) as being anticipated by *Ford* (U.S. 5,885,246). Applicant respectfully traverses.

Ford shows a breast cup that has a number of channels 10 feeding into pockets 10 encompassing the breast cup. As negative pressure is applied to channels 10, the pockets 10 deflate and expand outwards away from the human breast. When the negative pressure is eased, the channels 10 return to their original position and place pressure on the breast to encourage lactation. (Col. 4, lines 17-26). The nipple 14 protrudes into the tubular inner portion 7 but does not contact the inner walls as the breast cup is designed to manipulate only the areola portion of the breast 18 rather than the nipple to encourage the expression of milk. (Col. 4, lines 11–16).

Ford does not teach or suggest "the wall thickness of the cup varying from the first end to the second end in a manner that causes a progressive collapse of the cup when a vacuum is drawn at the first end, and the second end of the cup is closed by a human breast and teat." (Claim 22). The pockets 10 in *Ford* do not progressively collapse to mimic a suckling infant. The pockets 10 all collapse at the same time. Furthermore, they certainly do not collapse progressively due to varying wall thickness. In addition, in *Ford*, the nipples are not manipulated at all to encourage expression of milk. In the present invention, the nipple is squeezed by the collapse of the breast cup. Thus, the present invention is different from the invention taught in *Ford*.

Applicant respectfully requests that this rejection be withdrawn.

Claims 22-32 were rejected under 35 U.S.C. §102(b) as being anticipated by *Beer et al.* (U.S. 4,799,922). Applicant respectfully traverses.

Beer teaches a breast cup with an annular deformation zone 345 on funnel 343 and a thimble 347 with a thick wall to prevent deformation. The deformation zone 345 will collapse onto the breast when negative pressure is supplied while the thimble 347 will resist deformation. The collapse of the deformation zone 345 will massage the breast to aid in expressing milk. (Col. 7, line 61 – Col. 8, line 20; Figure 3).

Beer does not teach or suggest "the wall thickness of the cup varying from the first end to the second end in a manner that causes a progressive collapse of the cup when a vacuum is drawn at the first end, and the second end of the cup is closed by a human breast and teat." (Claim 22). In *Beer*, the wall thickness does not cause the breast cup to progressively collapse. In contrast, in the deformation zone, 345 the funnel 343 collapses all at once onto the breast. The thimble 347, however, does not subsequently collapse. Instead, thimble 347 is specifically designed to resist collapse. This is further evidenced by the claim language in *Beer* reciting that the "apex section being thimble shaped with an essentially tubular side wall and an apertured end face wall, both of which are non-deformable when ambient pressure is reduced . . . ." (Claim 1).

Applicant respectfully requests that this rejection be withdrawn.

Claims 23-32 depend on and further limit claim 22. These claims are patentable at least for the reasons given above for the patentability of claim 22.

Applicant respectfully requests that this rejection be withdrawn.

New claim 37 has novelty and inventiveness over *Silver*, *Ford*, and *Beer* because it recites "the wall of the cup closer to the second end is thinner than the wall at the first end so that the breast cup collapses first on a human breast and then on a human teat when a vacuum is

drawn at the first end, and the second end of the cup is closed by the human breast and tea" Neither *Silver*, *Ford*, or *Beer* teach or suggest that the breast cup collapses first on the human breast and then on the human teat due to a variation in wall thickness.

CONCLUSION

In view of the amendments and remarks, it is respectfully submitted that the pending claims are allowable, and applicant respectfully requests that the claims be allowed and this application be passed to issue.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as Express Mail No. EV 821 165 259 US addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on November 8, 2006.

By: Marc Fregoso

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Signature

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Very truly yours,

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